

# The Smart Grid Advantage

## Real. Smart. Solutions.

**Greg Blake**

Global Sales Leader, Smart Grid  
GE Digital Energy

June 2010



imagination at work

# Real. Energy. Challenges.

## Geopolitical challenges:

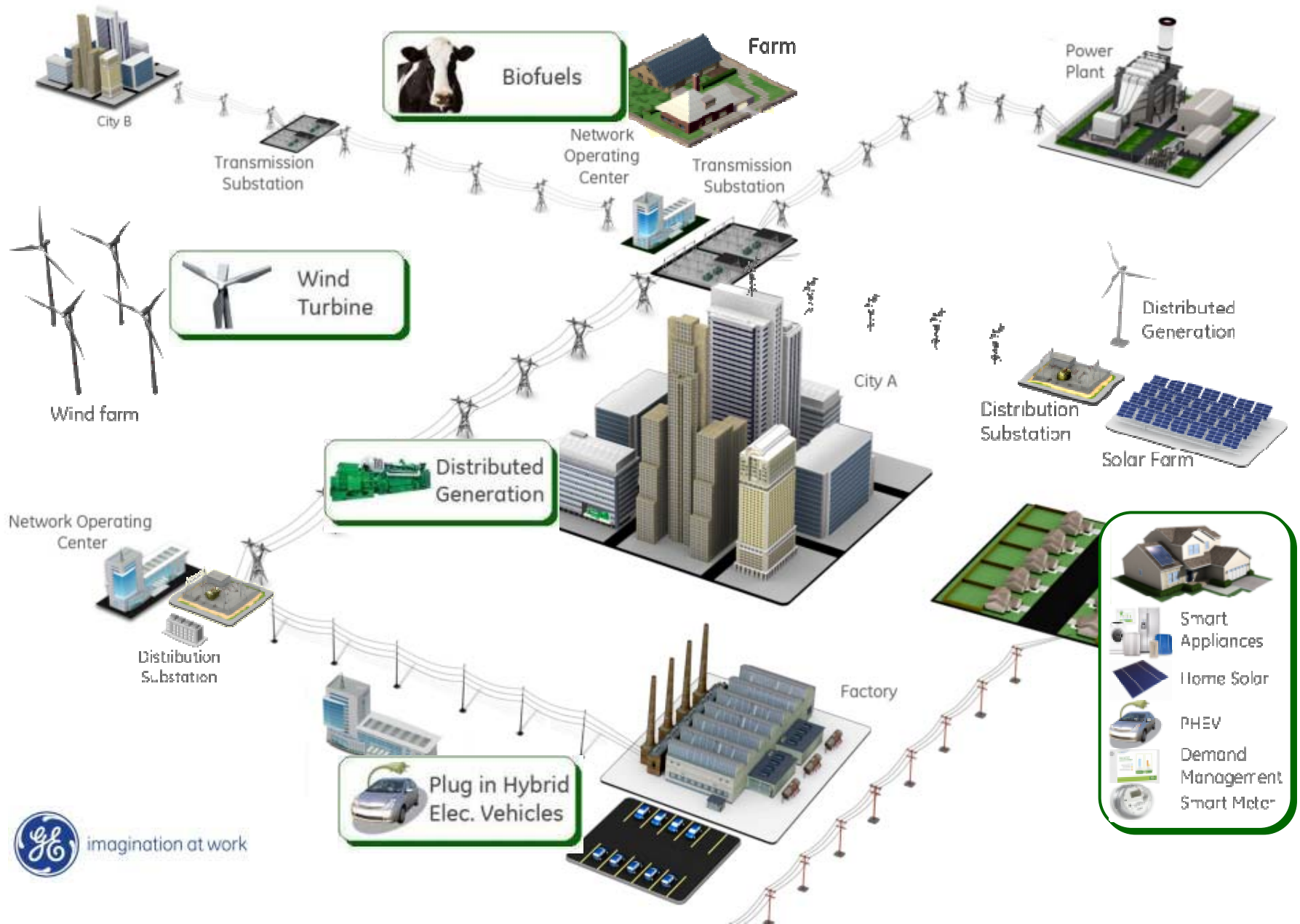
- 100% - Global energy demand growth by 2030
- 40% - Electricity's share of greenhouse gas emissions
- 42% - Average rate of U.S. retail electricity cost increases
- 4 'E's
  - Economic competitiveness
  - Energy Security
  - Empowerment – Consumers
  - Environmental Sustainability

## Industry challenges:

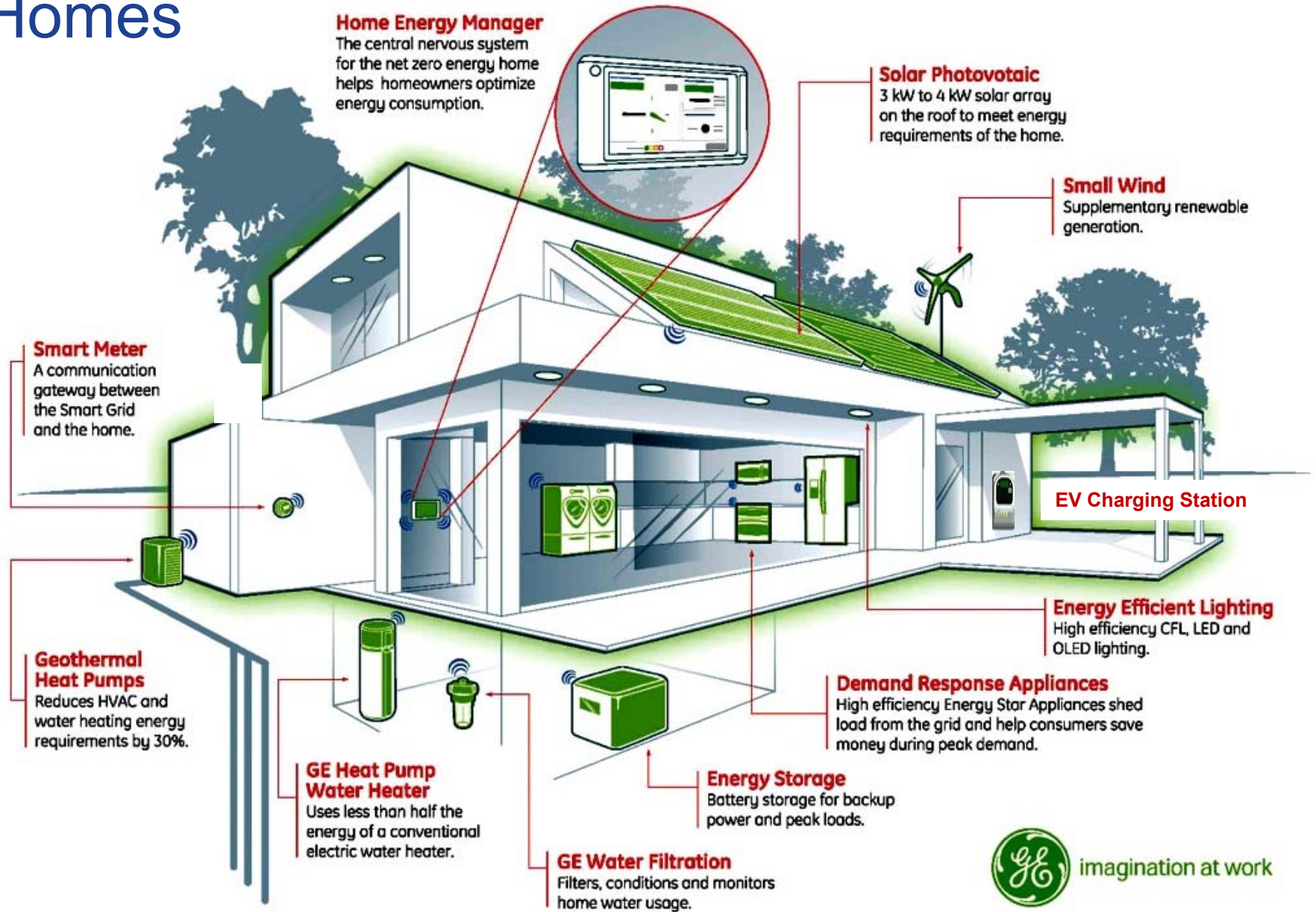
- Policy drives adoption of green energy and smart grid
- Long-term energy demand increasing
- Rising cost of energy
- Importance of reliability & quality
- Aging infrastructure and workforce



# Answers create complexity



# Glimpse at the future....Net Zero Energy Homes





# GE Smart Grid at Work

## Real. Consumer-Empowering. Solutions.

### Technology:

Smart meters & smart appliances

### Benefits:

- Lowering peak demand
- Meter directs high-energy-consumption activities to off-peak times
- Consumers are saving up to 20% on their electric bill with time-of-use pricing



# GE Smart Grid at Work

## Real. Clean. Solutions.

### Technology:

Wind integration technologies,  
Distribution Management System,  
Demand Response, Volt/VAR  
Control

### Benefits:

- 40% of Hawaii's electricity to come from clean renewable energy sources by 2030
- Reducing peak load by 15%



# GE Smart Grid at work

*Collaborations & alliances are critical*

- \$200M smart grid initiative
- ~800-1,000 “green collar” jobs
- Public/private alliance

GE  
FPL  
Silver Spring Networks

City of Miami  
Cisco

- ~1MM customers involved

Smart meters  
Distribution automation  
Distributed generation

Demand Management  
Substation intelligence  
Enterprise systems

“It’s time for action. With projects like Energy Smart Miami, we can stimulate the economy today and build a brighter, cleaner tomorrow. It’s truly a win-win.”

Carol

Browner



Assistant to the President for Energy and Climate Change

imagination at work

GE Proprietary &  
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GE /  
July 1, 2010

# Educate, engage and excite consumers

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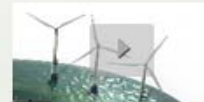
SO WHAT IS  
THE SMART GRID  
ANYWAY AND  
WHY SHOULD  
I CARE?

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## WHAT IS THE SMART GRID?



The smart grid is, in essence, an “energy internet” in that it delivers real-time energy information and knowledge directly to you

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[An Energy Internet](#)  
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# A day in the life in 2013 ...

- Home energy management systems
- Distributed power generation, including roof top solar
- Plug-in hybrid electric vehicles
- Power when and where you need it
- Improved reliability and customer service





# Backup Slides

# The Smart Grid

Smart grid marries automation and information technologies with current electrical infrastructure to support our 21st Century society energy needs.

Acting as an “energy internet,” the smart grid delivers real-time energy information and knowledge, empowering smarter energy choices.

A smarter grid:

- enables **integration of more clean, domestic energy sources** (such as wind, solar, biogas) and plug-in electric vehicles
- **increases energy and operational efficiencies and reliability** to deliver greater productivity
- **empowers consumers with information** to manage their energy usage and save money without compromising their lifestyle